

Hang Man game

-Making Hang Man Game with Using <Qt GUI>

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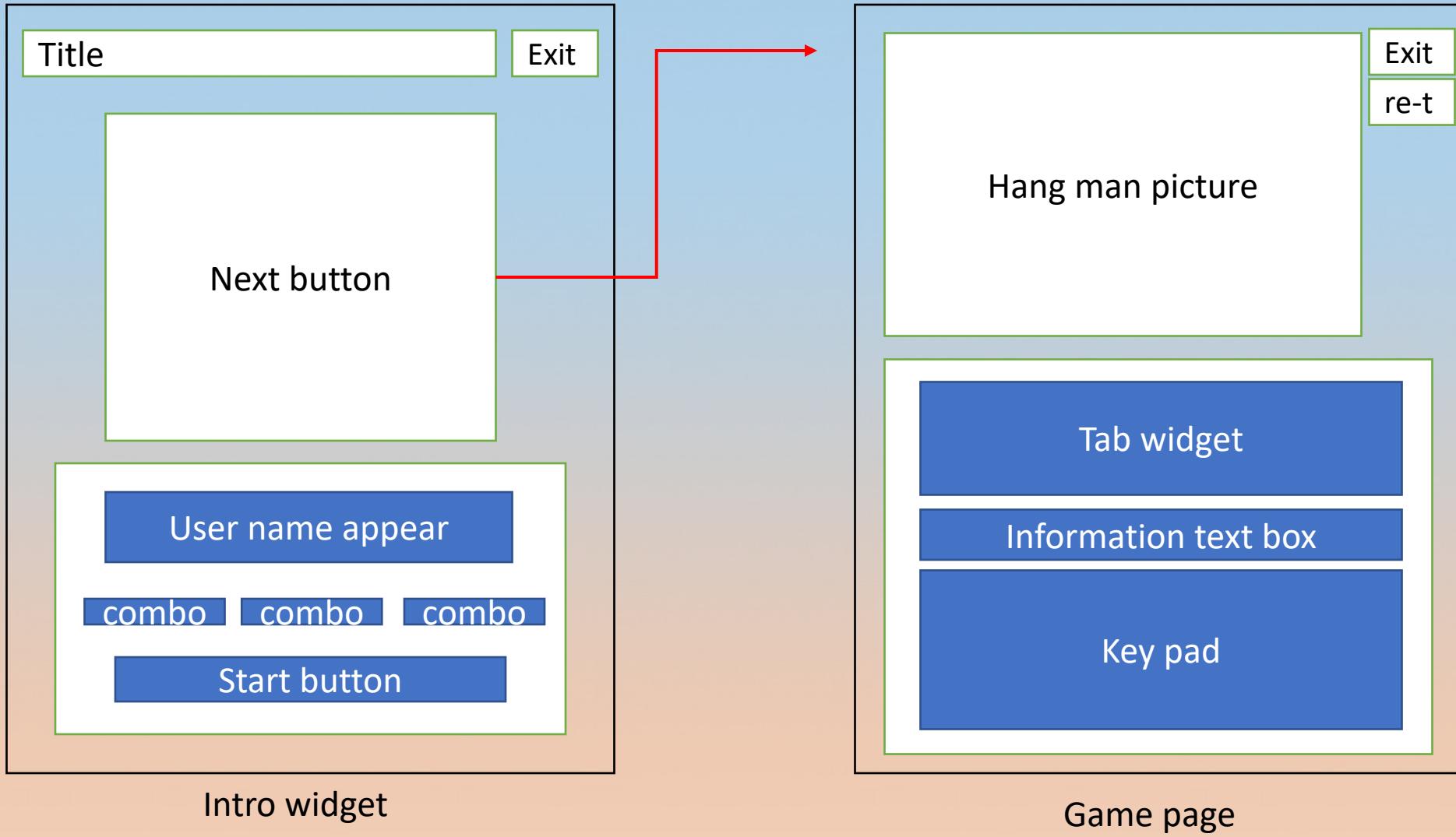
-How to save resource file?

Write console code

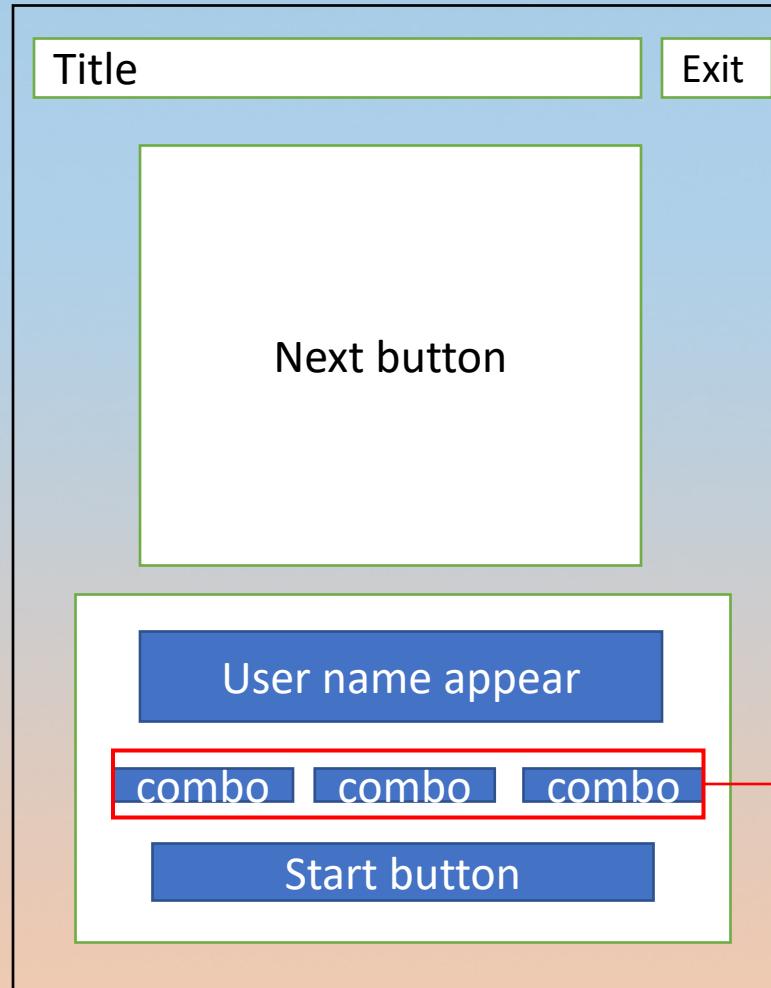
```
89 }
90
91     if(count == INCORRECT) // when user wrong 8 times. program end with letting the user the
92     // answer.
93     {
94         cout<<"The word is "<<choosedWord<<"."<<endl;
95     }
96
97     }while(finish(blankArr, size) == false && count <INCORRECT);
98
99 }
100
101 int main_menu()
102 {
103     int option;
104
105     cout<<"1. Fruits*<<endl;
106     cout<<"2. Animals **"<<endl;
107     cout<<"3. Movie characters ***"<<endl;
108     cout<<"4. Movie ****"<<endl;
109
110     cout<<"Please choose an option : ";
111     cin>>option;
112
113     while( option<1 || option >4)
114     {
115         cout<<"Invalid input. Please input valid number : ";
116         cin>> option;
117     }
118
119     return option ;
120 }
121
122 void fileOpening (ifstream& instream, string fileName)
123 {
124     instream.open(fileName);
125
126     if(instream.fail())
127     {
128         cout<<"Input file opening failed"<<endl;
129         exit(1);
130     }
131 }
```



Design Widget



Design Widget - Introduction page



Title, User name appear – Text Label

Text Label : Use text Label, when you want to output the letter or image in the space

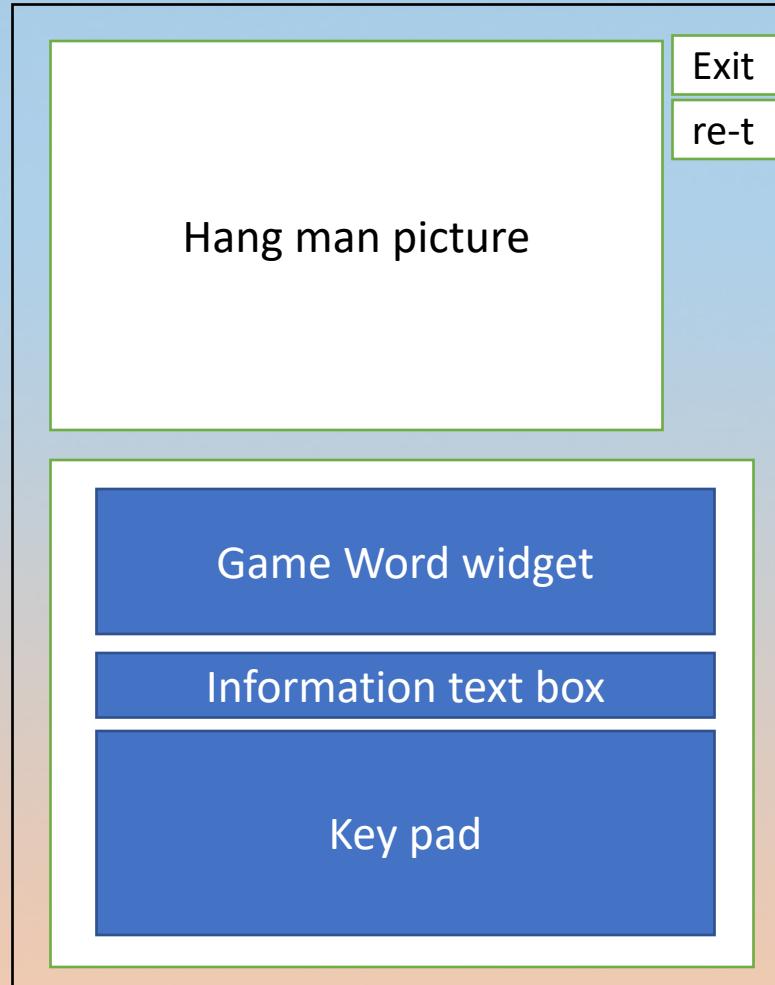
Start button, Next button, Exit – Push button

Pushbutton : When the pushbutton pushed, some action will created

User's birthday – combo box

combo box is uses when the user select the information among the categories.

Design Widget – Game page



Game Word widget- Tab widget

Tab widget gives different widget when the user click different category.

Key pad- Grid layout, Push button

Put Push button in the Grid layout

Information text box, Hang man picture – Text label

Exit& retry button - push button

<Lay Out>

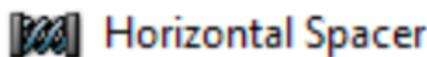
- **Vertical Layout:** A vertical layout widget lays out widgets in a vertical column, from top to bottom.

- **Horizontal Layout:** A horizontal layout widget lays out widgets in a horizontal row, from left to right (or right to left for right-to-left languages).

- **Grid Layout:** A grid layout widget lays out widgets in a two-dimensional grid. Each widget can occupy more than one cell.

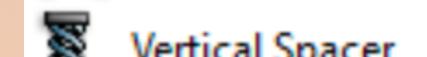
- **Form Layout:** A form layout widget lays out widgets in a two-column field style. Just as the name implies, this type of layout is best suited for forms of input widgets.

<Spacer>



Horizontal Spacer

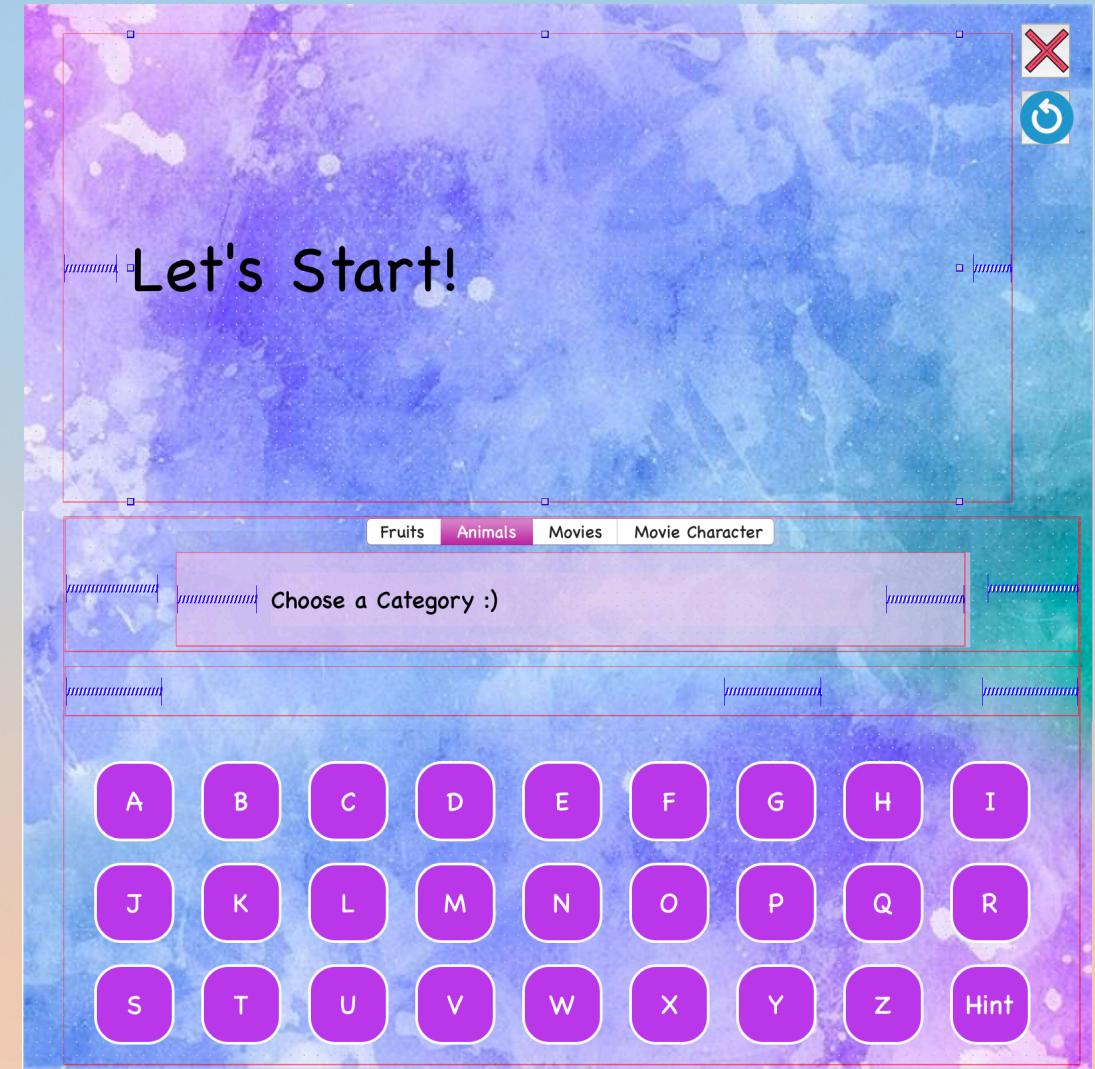
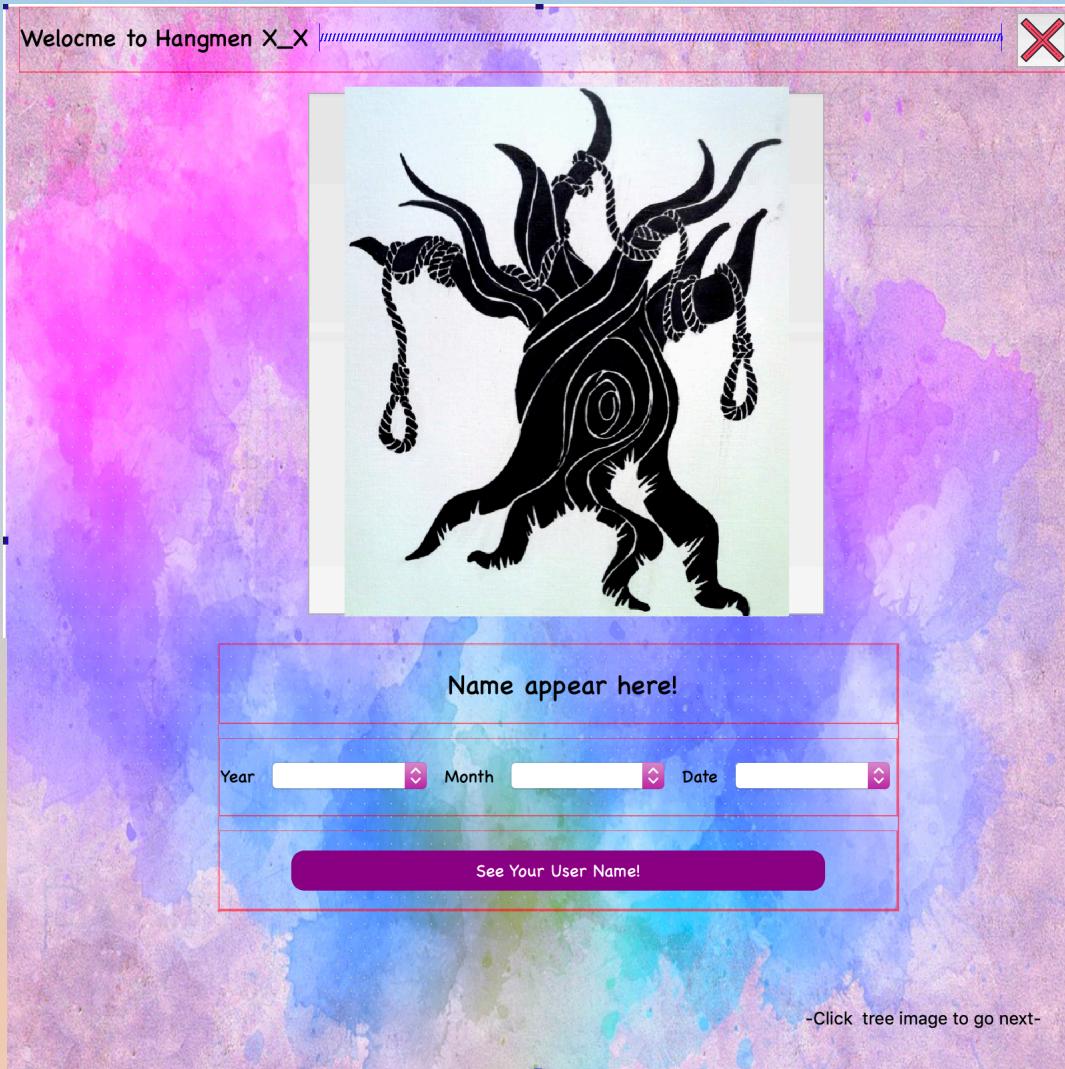
- **Horizontal Spacer:** A horizontal spacer widget is a widget that occupies the space within a layout and pushes other widgets within the layout along a horizontal space.



Vertical Spacer

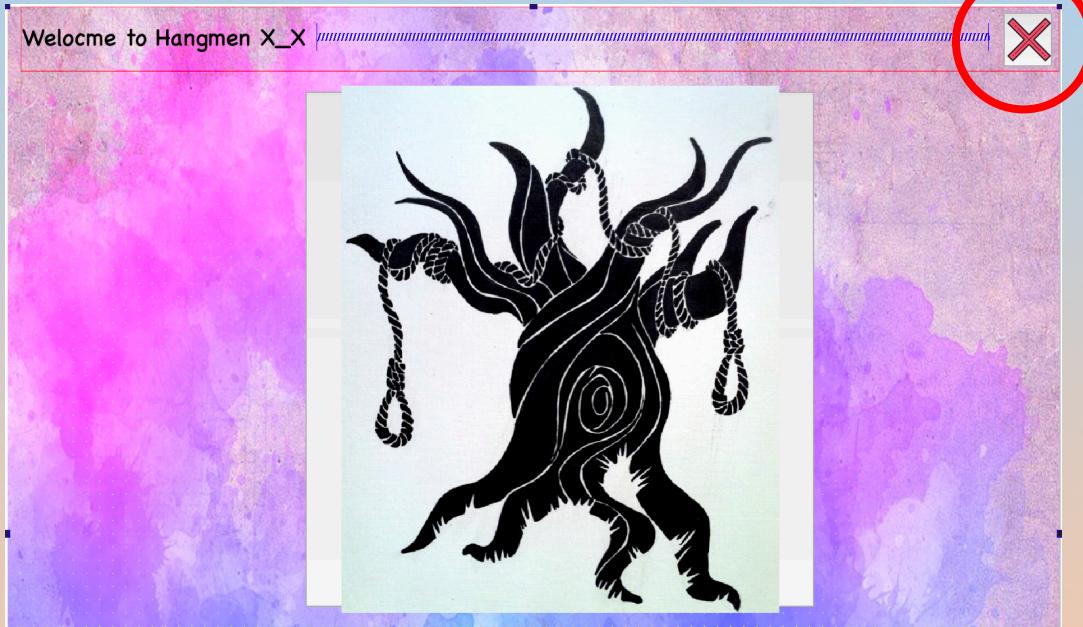
- **Vertical Spacer:** A vertical spacer is similar to a horizontal spacer, except it pushes the widgets along the vertical space.

Gui widget for hang man



Using Style sheet

- Push button
- How to put image in the push button?



▼ icon	x
Theme	
Normal Off	x
Normal On	x
Disabled Off	x
Disabled On	x
Active Off	x
Active On	x
Selected Off	x
Selected On	x delete.png
▼ iconSize	50 x 50
Width	50
Height	50

First, to put icon image in the push button, you should save image into your resource file (.qrc)

[-> How to put resource file?](#)

Go to the **selected on** and select the image that you want to put in your push button.

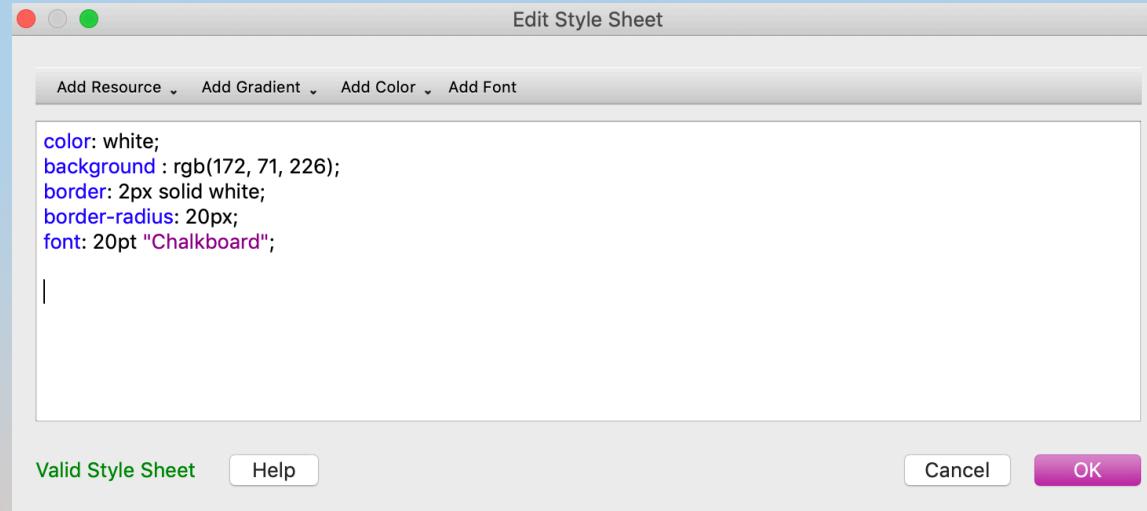
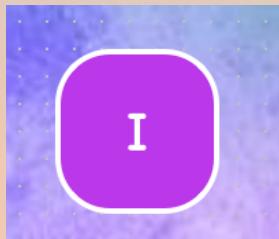
Make the **iconSize** fit to your push button icon.

If you only want to show icon with out push button, make your push button background clear. (For example: `rgba(200,255,200,0);`)

Using Style sheet

- Push button style sheet

pushButton_G : QPushButton	
Property	Value
► tooltip	
toolTipDuration	-1
► statusTip	
► whatsThis	
► accessibleName	
► accessibleDescri...	
layoutDirection	LeftToRight
autoFillBackground	<input type="checkbox"/>
styleSheet	QPushbutton { color: white; background : rgb(172, 71, 226); border: 2px solid white; border-radius: 20px; font: 20pt "Chalkboard"; }
► locale	English, United States
► inputMethodHints	ImhNone
▼ QAbstractButton	
► text	G
▼ icon	



Color: color of the text in the push button
Background: color of the push button background
Border: border line of push button
Border-radius :make the edge of push button border round
Font: font of the test in the push button

Using Style sheet

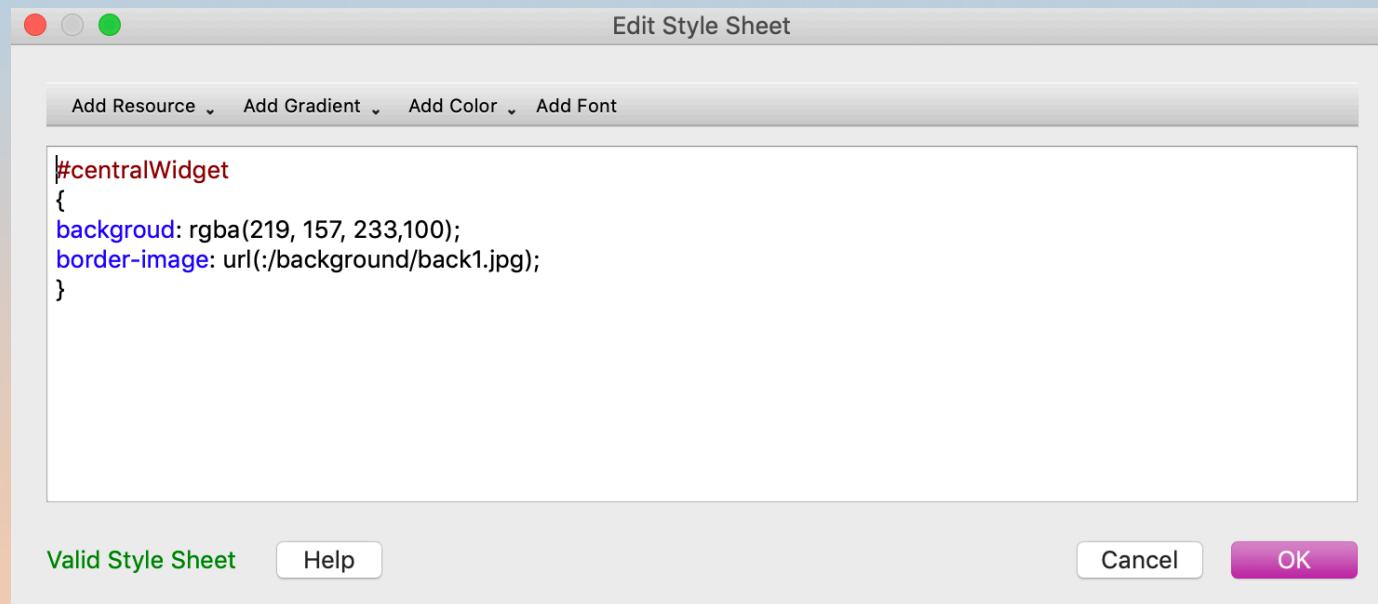
How to put background image in to the widget?

Object	Class
MainWindow	QMainWindow
centralWidget	QWidget

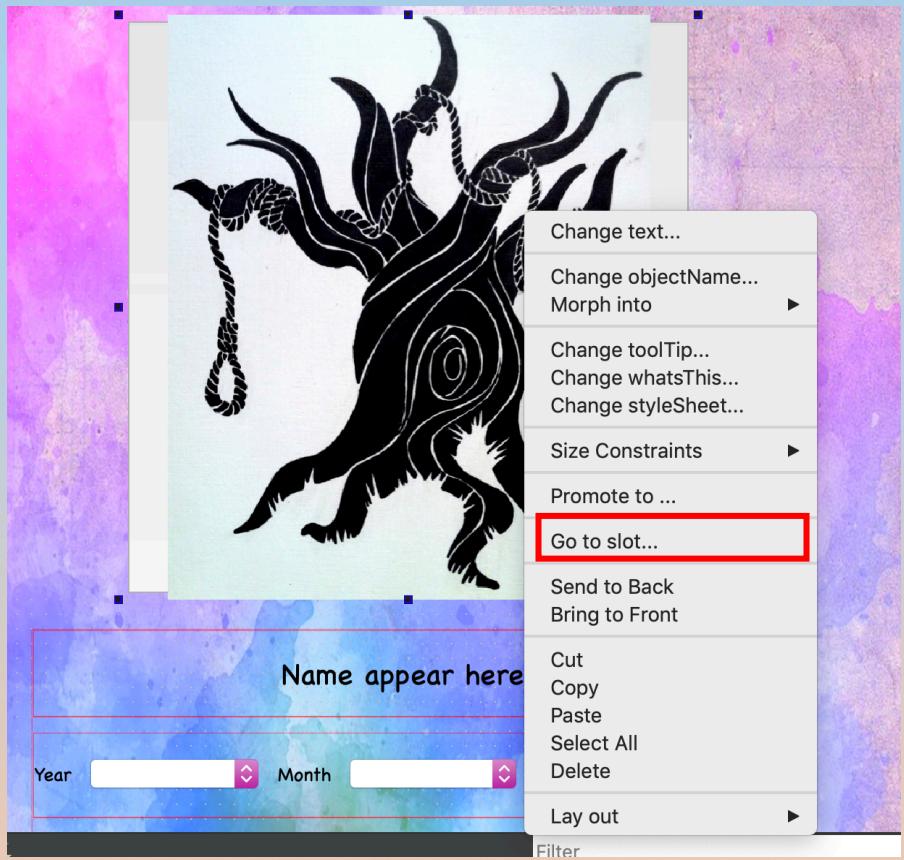
Go to centralWidget stylesheet, then add the code of **border-image** like the picture under.

Make sure save image file in your resource.

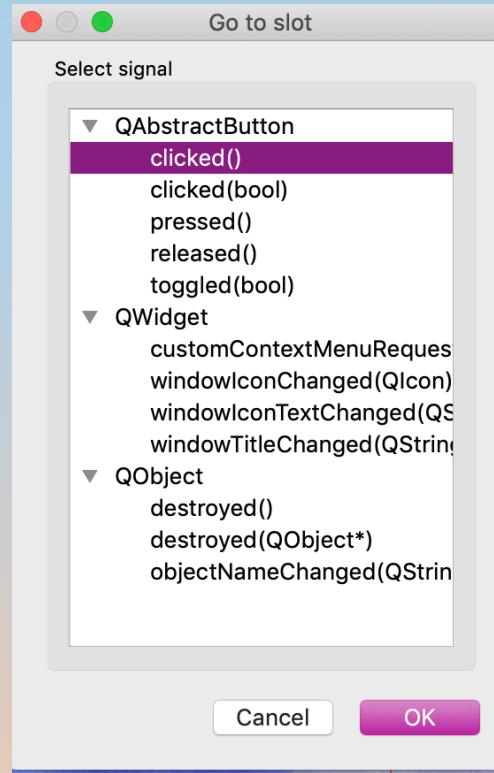
[-> How to put resource file?](#)



Connecting code



Connect pushbutton with slot



Go to slot and chose the option for the push button.

Usually, use clicked() for push button.

If you click OK button, this will bring you to the .cpp file of this function.

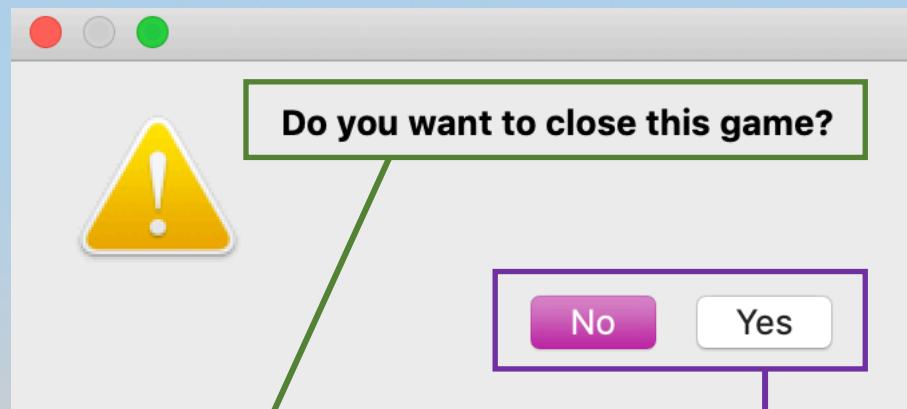
You can write down which action will execute, when you click the button.

For example, code below is connect the widget with the other widget named SecDialog.ui

```
void MainWindow::on_Next_clicked()
{
    hide();
    secdialog = new SecDialog(this);
    secdialog->show();
}
```

Connecting code

Make the message box when the push button clicked.



```
void MainWindow::on_Exit_clicked()
{
    QMessageBox::StandardButton exit;
    exit = QMessageBox::warning (this, "Test", "Do you want to close this game?", QMessageBox::Yes|QMessageBox::No);

    if (exit == QMessageBox::Yes)
        QApplication::quit();
}
```

Connecting code

Use variables in several different widgets

- If you want to use a variable in two different widget, you should declare the variable as **extern**.

Declare the extern variable in the main widget header file (it is usually mainWindow.h)

```
extern QString Username;
```

Declare the variable in the .cpp file of corresponding of header file. mainWindow.cpp file

```
#include "mainwindow.h"  
  
QString Username;
```

In the second widget cpp file, add the header file #include "mainWindow.h" and use Username in your code.

```
#include "mainwindow.h"  
  
QString Username;
```

<MainWindow.ui>



<SecDialog.ui>



Connecting code

Using combo box

To fill lists in the combo box...

```
#include "comboboxdialog.h"
#include "ui_comboboxdialog.h"

ComboBoxDialog::ComboBoxDialog(QWidget *parent) :
    QDialog(parent),
    ui(new Ui::ComboBoxDialog)
{
    ui->setupUi(this);

    // Fill the items of the ComboBox
    for(int i = 0; i < 10; i++)
    {
        ui->comboBox->addItem("item " + QString::number(i));
    }
}
```

Combo box index is started from 0

This code fill the combo box

Item 1

Item 2

Item 3...

```
MainWindow::MainWindow(QWidget *parent) :
    QMainWindow(parent),
    ui(new Ui::MainWindow)
{
    ui->setupUi(this);

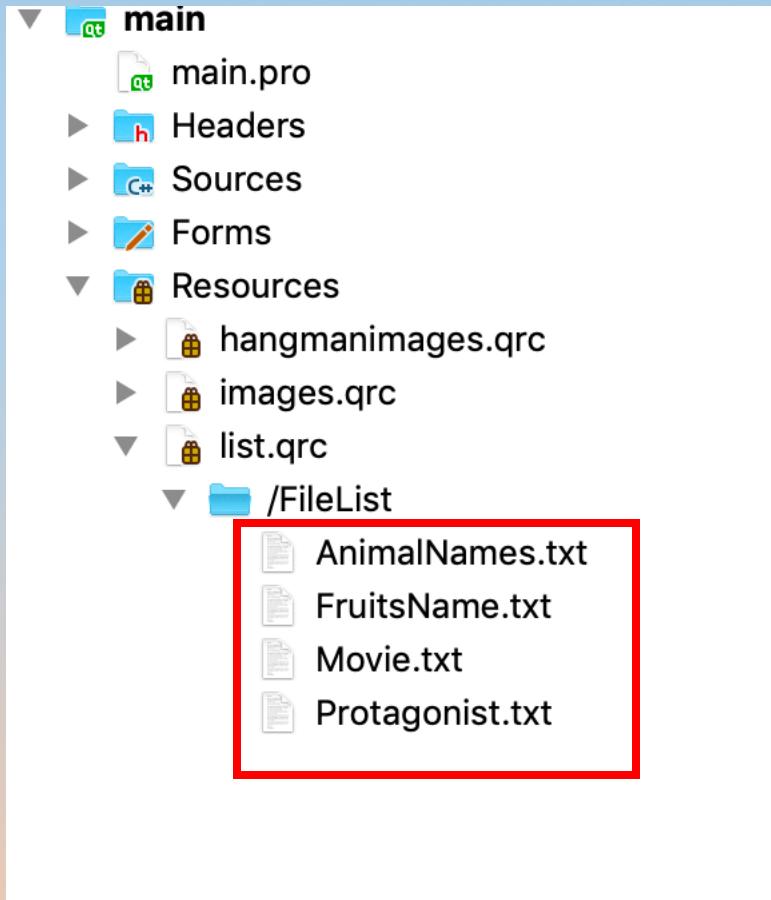
    for( int i = 1990 ; i <2011 ; i ++)
    {
        ui->Year->addItem(QString::number(i));
    }
    for( int i = 1 ; i <13 ; i++)
    {
        ui->Month->addItem(QString::number(i));
    }
    for( int i = 1 ; i <32 ; i++)
    {
        ui->day->addItem(QString::number(i));
    }
}
```

This codes fill the combo box
year from 1990 to 2010,
Month from 1 to 12,
Day from 1 to 31

```
QVariant j = ui->Month->currentText();
int month = j.toInt();
```

You can get the text inside the combo lists with
the variable QVariant,
Also, could make the variable to Integer with
using .toInt().

Connecting code



Add .txt file in your resource(.qrc)
[-> How to put resource file?](#)

Opening files in the resource

Function for open file

```
void SecDialog::Openfile (QString filename, int RandNum)
{
    QFile file(filename);
    if (! file.open(QIODevice::ReadOnly | QIODevice::Text))
        ui->Word->setText("File Opening Failed");

    QTextStream in(&file);

    int index = 0;

    while (!in.atEnd() && index<=RandNum)
    {
        line = in.readLine();
        index++;
    }

    file.close();

    for(int index = 0 ; index <line.length(); index++)
    {
        line[index]= line[index].toUpper();
    }
}
```

Use openfile function

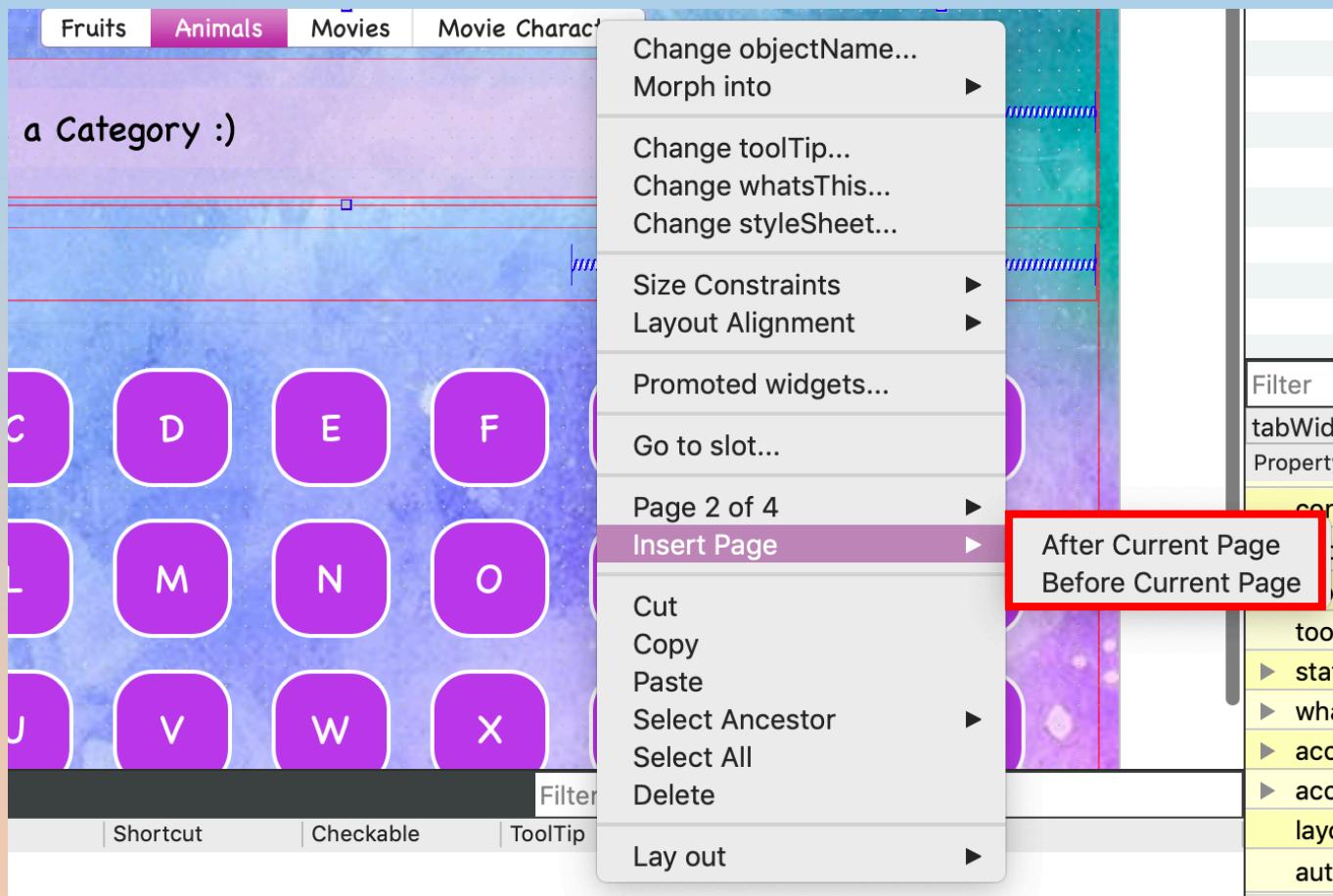
```
QString file1(":/FileList/FruitsName.txt");
int randNum=rand()%69+1;
Openfile(file1,randNum);
```

Connecting code

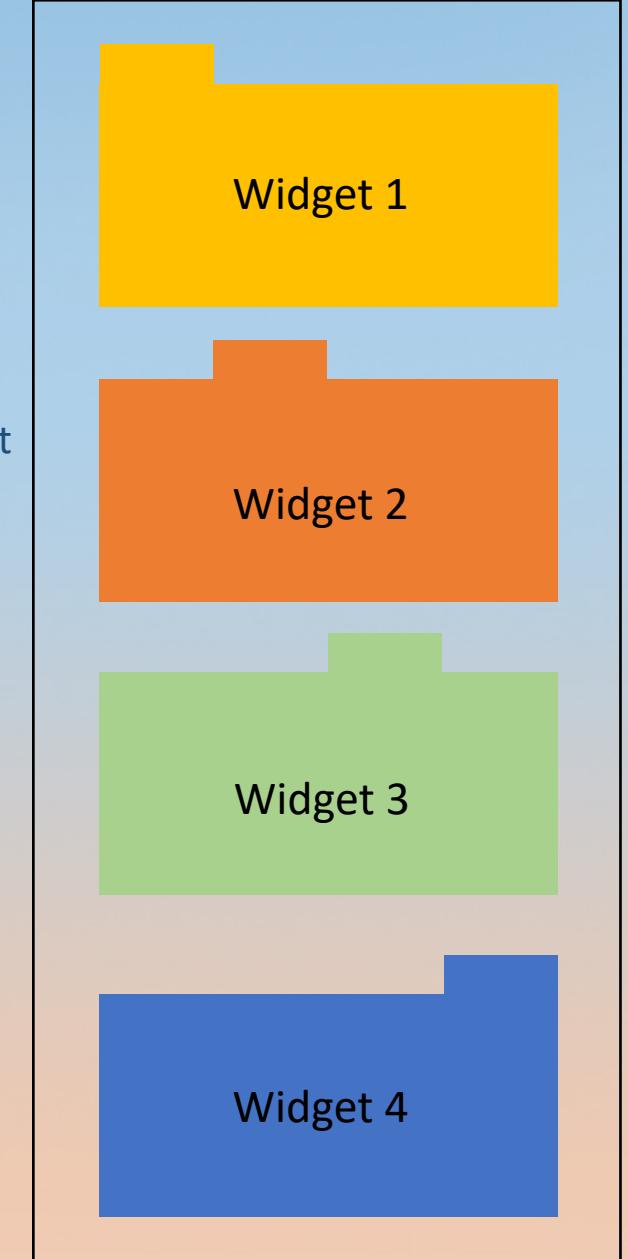
Using Tab Widget

To Add pages into Tab Widget

You can just mouse right click on the widget and choose either After Current Page or Before Current Page



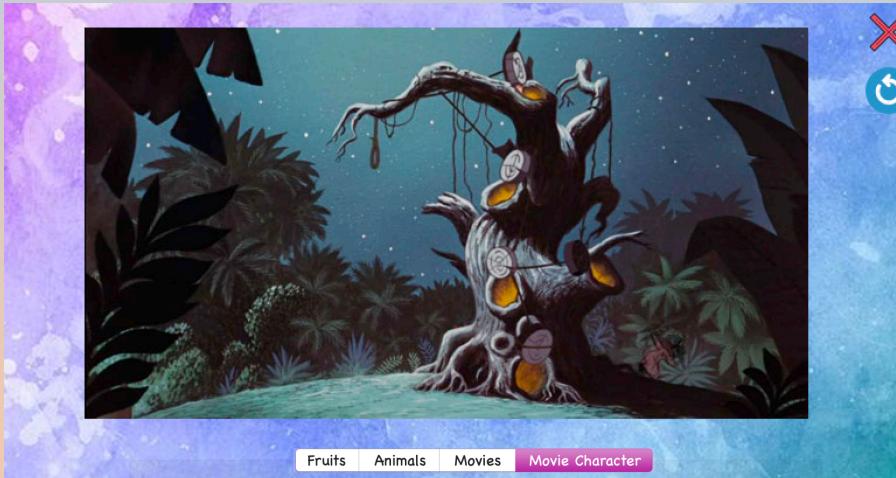
Make sure all tabs have different widget page like picture



After add slots in the tab widget, you can use same method as common widgets.

Connecting code

Connect image in text label



```
QPixmap tree(":/tree/deadpicture.png");
ui->image->setPixmap(tree);
```

Image is text label name, inside the “ ” put the path of the image resources.

-Make sure save image in the resources (.qrc)

*To connect the text label with the string you want to show.

Write the code :

```
ui->textlabel_name->setText("String_line");
```

Image opened in text label where <Let's Start> was written.

Connecting code

How to change push button color after clicked?



(After push B,D and M)

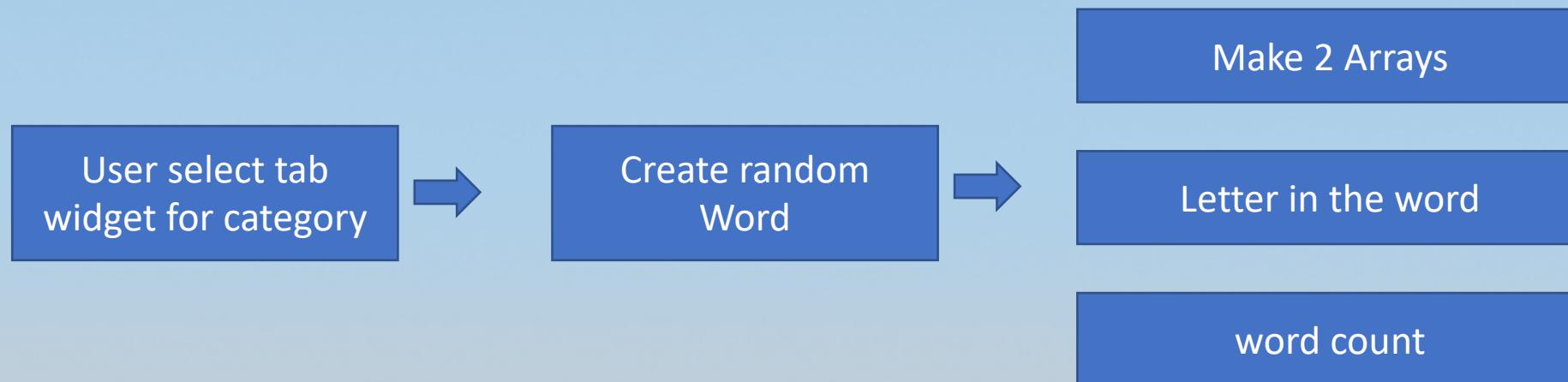


```
QString styleSheet("color: white;\nbackground : gray;\n" "border: 2px solid white;\nborder-radius: 20px;\n" "font: 20pt \\"Chalkboard\\"; \n");
```

```
ui->[pushbutton_B]->setStyleSheet(styleSheet);
```

Push button name
(In here, pushbutton_B, Pushbutton_D,
or pushbutton_M)

Hang man-game Algorithm

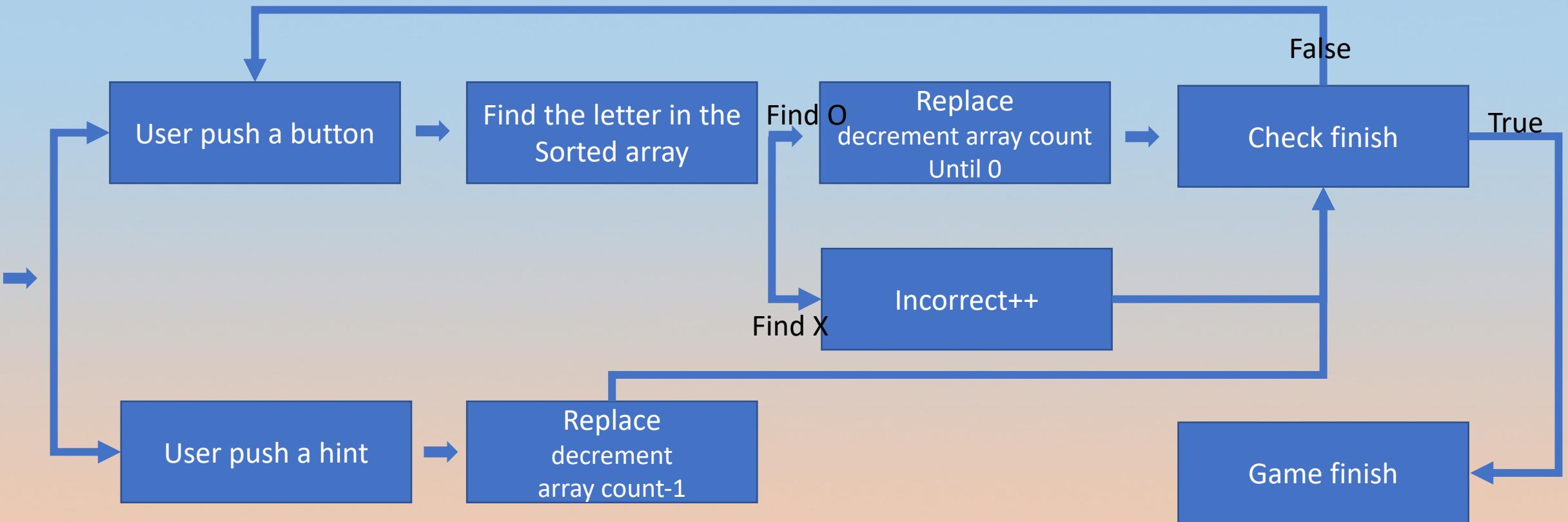


Example:

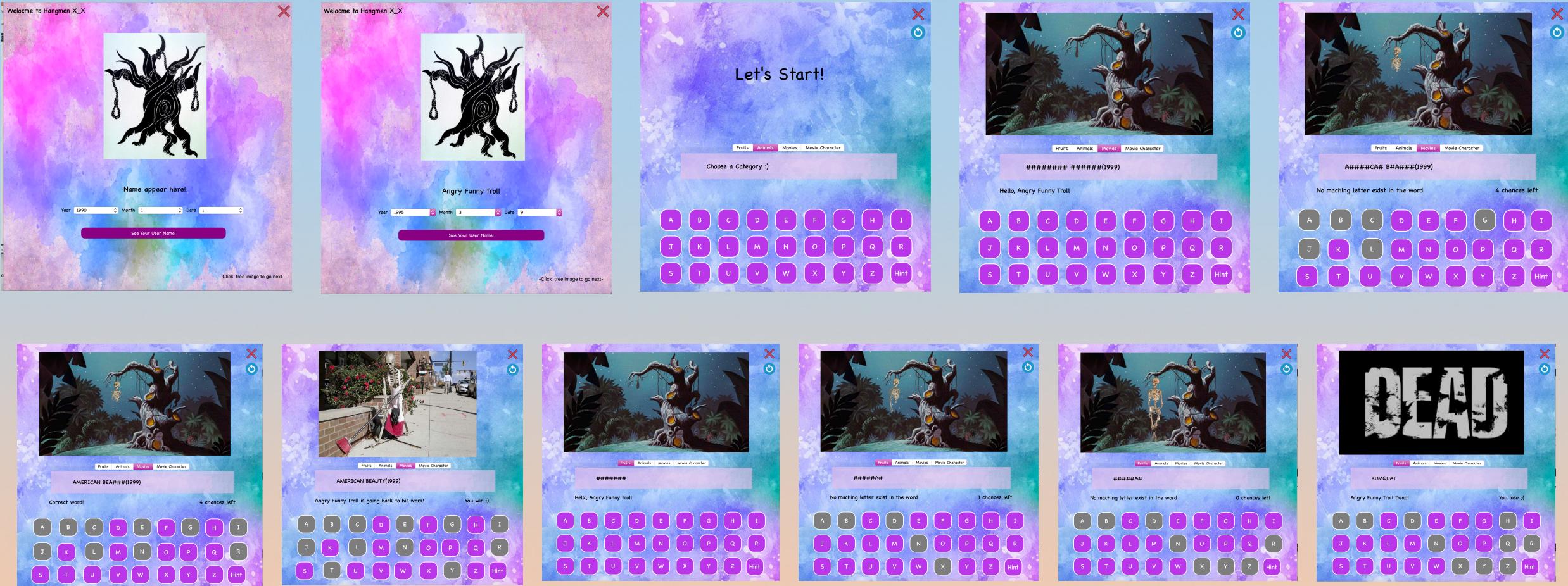
Movie category → Transformers(2007) →

Arr 1: T R A N S F O M E
Arr 2: 1 2 1 1 2 1 1 1 1

Hang man-game Algorithm



Hang man-game- let's start!



Index - How to save resource file?

